

AMENDMENTS TO THE SPECIFICATION:

Please amend Paragraph [0064] as follows:

[0064] Referring now to FIG. 3 (A) schematically illustrated therein, in simplified cross-sectional view, are three deposition stages of a cathode sputtering apparatus ~~[[25]]~~40 according to another embodiment of the present invention. As illustrated, apparatus ~~[[25]]~~ 40 includes (at least) three serially arranged deposition stations ~~[[26]]~~ 41, ~~[[27]]~~ 42, and ~~[[28]]~~ 43, each ~~comprised of~~ having a facing pair of e.g., circularly-shaped, planar magnetron cathode/target assemblies ~~[[26]]~~ 41_A – [[26]] 41_B, ~~[[27]]~~ 42_A – [[27]] 42_B, and ~~[[28]]~~ 43_A – [[28]] 43_B of the same diameter but with respective circularly-shaped magnetron magnet assemblies 29_A – 29_B, 30_A – 30_B, and 31_A – 31_B of progressively increasing diameters ~~$d_3 > d_2 > d_1$~~ $d_6 > d_5 > d_4$. In contrast with the previous embodiment, the spacing between the sputtering surface S of each of the planar magnetron cathode/target assemblies and the substrate/workpiece 2 is the same for each deposition stage. However, as in the previous embodiment, respective pairs of shields 32, 33, and 34 are provided in spaced adjacency to the peripheries of the sputtering surfaces S of each of the cathode/target assemblies ~~[[26]]~~ 41_A – [[26]] 41_B, ~~[[27]]~~ 42_A – [[27]] 42_B, and ~~[[28]]~~ 43_A – [[28]] 43_B.

Please amend Paragraph [0065] as follows:

[0065] As before, in a typical application according to the invention, e.g., manufacture of disk-shaped perpendicular magnetic recording media, a dual-sided, annular disk-shaped precursor substrate/workpiece 2 for magnetic media (optionally with an adhesion layer 2A thereon) is supplied to apparatus ~~[[25]]~~ 40 at an input end thereof adjacent cathode/target assembly ~~[[26]]~~ 41_A – [[26]] 41_B and transported through apparatus ~~[[25]]~~ 40 for serial (i.e.,

sequential) deposition thereon of a plurality of sub-layers (illustratively three sub-layers) of a magnetically soft underlayer (SUL) 3 at the preferably circularly-shaped cathode/target assemblies $[[26]] \underline{41}_A - [[26]] \underline{41}_B$, $[[27]] \underline{42}_A - [[27]] \underline{42}_B$, and $[[28]] \underline{43}_A - [[28]] \underline{43}_B$.

Please amend Paragraph [0066] as follows:

[0066] According to the invention, the diameters \underline{d} , of the magnetron magnet assemblies $29_A - 29_B$, $30_A - 30_B$, and $31_A - 31_B$ of respective cathode/target assemblies $21_A - 21_B$, $22_A - 22_B$, and $23_A - 23_B$ in FIG. 2 are different for each deposition stage, i.e., different for deposition of each sub-layer of SUL 3. More specifically, according to the ~~illustrated~~ embodiment illustrated in FIG. 3A, the diameters of the magnetron magnet assemblies of the planar magnetron cathode/target assemblies $[[26]] \underline{41}_A - [[26]] \underline{41}_B$, $[[27]] \underline{42}_A - [[27]] \underline{42}_B$, and $[[28]] \underline{43}_A - [[28]] \underline{43}_B$ increase as the substrate/workpiece moves from an upstream cathode/target assembly to a downstream cathode/target assembly for sequential deposition of the various sub-layers, such that $[[\underline{d}_3]] \underline{d}_6 > [[\underline{d}_2]] \underline{d}_5 > [[\underline{d}_1]] \underline{d}_4$.

Please amend Paragraph [0067] as follows:

[0067] Adverting to FIG. 3 (B), schematically illustrated therein are the (relative) sputtered film thickness profiles (or distributions) of the three illustrated deposition stages of apparatus $[[25]] \underline{40}$ of FIG. 3 (A) and the collective (or overall) sputtered film thickness profile. As is evident from FIG. 3 (B), the (relative) sputtered film thickness profile (or distribution) is a function of the diameter \underline{d} of the magnetron magnet assembly. Specifically, the first cathode/target assembly $[[26]] \underline{41}_A - [[26]] \underline{41}_B$ with the relatively narrow diameter $\underline{d} = [[\underline{d}_1]] \underline{d}_4$ centrally located magnetron magnet assemblies $29_A - 29_B$ provides a relatively steeply inclined

sputtered film thickness profile, i.e., steeply decreasing film thickness from the ID to the OD of the annular disk-shaped substrate/workpiece; the second cathode/target assembly [[27]] 42_A – [[27]] 42_B with magnetron magnet assembly 30_A – 30_B with a moderately increased diameter **d** = [[d₂]] d₅ provides a somewhat less steeply inclined sputtered film thickness profile, i.e., less steeply decreasing film thickness from the ID to the OD of the disk; and the third cathode/target assembly [[28]] 43_A – [[28]] 43_B with magnetron magnet assembly 31_A – 31_B with significantly increased diameter **d** = [[d₃]] d₆ provides an inverted, steeply inclined sputtered film thickness profile, i.e., steeply increasing film thickness from the ID to the OD of the disk.

Please amend Paragraph [0068] as follows:

[0068] According to the invention, the magnetron magnet diameters [[d₁]] d₄, [[d₂]] d₅, and [[d₁]] d₆ of cathode/target assemblies [[26_A]] 41_A – [[26_B]] 41_B, [[27_A]] 42_A – [[27_B]] 42_B, and [[28_A]] 43_A – [[28_B]] 43_B are selected for a particular application such that the respective sub-layers formed thereat *collectively* form a substantially uniform thickness layer of the selected material, as shown in FIG. 3 (B).

Please amend Paragraph [0070] as follows:

[0070] The invention advantageously admits of a variety of apparatus configurations, as for example, shown in FIGS. 4 (A) – 4 (B) and FIGS. 5 (A) – 5 (B). More specifically, FIGS. 4 (A) and 4 (B) respectively schematically illustrate, in simplified top sectional views, in-line and circularly-configured single chamber, three deposition stage cathode sputtering apparatus [[40]] 140 and [[41]] 141 comprising a single vacuum chamber; and FIGS. 5 (A) and 5 (B)

schematically illustrate, in simplified top sectional views, in-line and circularly-configured multi-chamber, three deposition stage cathode sputtering apparatus **[[50]] 150** and **[[51]] 151** comprising separate vacuum chambers for each cathode/target assembly. In each instance, the direction of motion of substrates/workpieces **2** through the apparatus is indicated by the arrows in the figures.